

In the Claims:

Claim 1. (Previously presented) A method for forming a trimmed gate in a transistor comprising the steps of:

forming a polysilicon portion of a gate conductor on a substrate having a semiconductor portion; and

laser trimming the polysilicon portion by a film growth method selective to laser-absorbing polysilicon.

Claim 2. (Original) The method of claim 1, wherein the selective film growth method comprises selective surface nitridation.

Claim 3. (Canceled)

Claim 4. (Previously presented) The method of claim 1, wherein the step of laser trimming the polysilicon portion further comprises selectively compensating n-channel and p-channel devices.

Claim 5. (Original) The method of claim 1, additionally comprising the step of at least partially removing the trimming film.

Claim 6. (Original) The method of claim 1, wherein the trimming film is anisotropically etched, forming gate conductor spacers.

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Claim 7. (Original) The method of claim 1, wherein the trimming film is silicon-rich and the method further comprises the step of forming additional nitride or oxide layers on the trimming film.

Claim 8. (Previously presented) The method of claim 2, wherein the step of laser trimming the gate conductor by selective surface nitridation comprises exposing structures formed on the semiconductor portion to 50-1000 expose pulses of laser irradiation with an energy fluence of 200-700 mJ/cm² in the presence of ammonia at a pressure of 10-1500 torr.

Claim 9. (Previously presented) The method of claim 8, wherein the step of laser trimming the gate conductor by selective surface nitridation comprises exposing structures formed on the semiconductor portion to about 150 expose pulses of 308 nm laser irradiation with an energy fluence of 400-500 mJ/cm² in the presence of ammonia at a pressure of about 300-500 torr.

Claim 10. (Original) The method of claim 9, wherein ammonia is supplied at about 100 cc/min.

Claims 11-13. (Canceled)

Claim 14. (Previously presented) A method for forming selectively compensated semiconductor devices comprising the steps of:

forming a plurality of polysilicon portions of gate conductors on a substrate having a

semiconductor portion;

masking at least one polysilicon portion intended for a n-channel device; and

laser trimming at least one unmasked polysilicon portion intended for a p-channel device by a film growth method selective to laser-absorbing polysilicon, wherein the extent of trimming is selected to accomplish device compensation of the p-channel and n-channel devices.

Claim 15. (Original) The method of claim 14, wherein the selective film growth method comprises selective surface nitridation.

Claim 16. (Canceled)

Claim 17. (Previously presented) The method of claim 15, wherein the step of laser trimming the gate conductor by selective surface nitridation comprises exposing structures formed on the semiconductor portion to about 150 expose pulses of 308 nm laser irradiation with an energy fluence of 400-500 mJ/cm² in the presence of ammonia at a pressure of about 300-500 torr.

Claims 18-22. (Canceled)

Claim 23. (Previously presented) A method for forming a trimmed gate in a transistor comprising the steps of:

forming a polysilicon portion of a gate conductor on a substrate having a semiconductor portion; and

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laser trimming at least an electrically significant portion of the polysilicon portion by a film growth method selective to laser-absorbing semiconductor material.

Claim 24. (Previously presented) The method of claim 23 wherein laser trimming the polysilicon portion comprises trimming only a portion of the polysilicon portion.

Claims 25-35. (Canceled)

Claim 36. (Previously presented) A method for forming selectively compensated semiconductor devices comprising the steps of:

forming a plurality of polysilicon portions of gate conductors on a substrate having a semiconductor portion;

masking at least one polysilicon portion intended for a n-channel device;

laser trimming at least an electrically significant portion of one unmasked polysilicon portion intended for a p-channel device by a film growth method selective to laser-absorbing polysilicon, wherein the extent of trimming is selected to accomplish device compensation of the p-channel and n-channel devices.

Claim 37. (Previously presented) The method of claim 36, wherein the selective film growth method comprises selective surface nitridation.

Claim 38. (Previously presented) The method of claim 37, wherein the step of laser trimming

comprises reacting the polysilicon portion to a depth of at least ten nanometers.

Claim 39. (Previously presented) The method of claim 37, wherein the step of laser trimming the gate conductor by selective surface nitridation comprises exposing structures formed on the semiconductor portion to about 150 expose pulses of 308 nm laser irradiation with an energy fluence of 400-500 mJ/cm² in the presence of ammonia at a pressure of about 300-500 torr.

Claim 40. (Previously presented) The method of claim 23, wherein laser trimming at least an electrically significant portion of the polysilicon portion comprises reacting the polysilicon portion to a depth of at least ten nanometers.

Claim 41. (Previously presented) The method of claim 23, wherein laser trimming at least an electrically significant portion of the polysilicon portion comprises reacting the polysilicon portion to a depth within a range of 10 to 100 nanometers.

Claim 42. (Previously presented) The method of claim 23, wherein the selective film growth method comprises selective surface nitridation.

Claim 43. (Previously presented) The method of claim 42, wherein the step of laser trimming the gate conductor by selective surface nitridation comprises exposing structures formed on the semiconductor portion to 50-1000 expose pulses of laser irradiation with an energy fluence of 200-700 mJ/cm² in the presence of ammonia at a pressure of 10-1500 torr.

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Claim 44. (Previously presented) The method of claim 43, wherein the laser irradiation is of a wavelength absorbed by the gate material selective to surrounding materials.

Claim 45. (Previously presented) The method of claim 43, wherein the step of laser trimming the gate conductor by selective surface nitridation comprises exposing structures formed on the semiconductor portion to about 150 expose pulses of 308 nm laser irradiation with an energy fluence of 400-500 mJ/cm² in the presence of ammonia at a pressure of about 300-500 torr.

Claim 46. (Previously presented) The method of claim 45, wherein ammonia is supplied at about 100 ccm/min.

Claim 47. (Previously presented) The method of claim 23, wherein the step of laser trimming at least an electrically significant portion of the polysilicon portion further comprises selectively compensating n-channel and p-channel devices.

Claim 48. (Previously presented) The method of claim 23, additionally comprising the step of at least partially removing the trimming film.

Claim 49. (Previously presented) The method of claim 23, wherein the trimming film is anisotropically etched, forming gate conductor spacers.

Claim 50. (Previously presented) The method of claim 23, wherein the trimming film is

silicon-rich and the method further comprises the step of forming additional nitride or oxide layers on the trimming film.

Claim 51. (Previously presented) The method of claim 36, wherein the step of laser trimming the gate conductor comprises exposing polysilicon to laser irradiation of 308 nanometer wavelength.

Claim 52. (Canceled)

Claim 53. (Previously presented) A method for laser trimming a portion of a structure on a semiconductor substrate, the structure comprising a material, the method comprising the steps of:

opening a mask to expose the portion of the structure;

abutting a surface of the portion of the structure with a pressurized nitrogen compound atmosphere;

irradiating the portion of the structure through the open mask with a laser, the laser having a wavelength adapted to be absorbed by the material of the structure, wherein a power and pulse repetition of the laser and the pressure and a flow rate of the nitrogen compound are controlled to produce a nitride film on the portion of the structure; and

etching a portion of the nitride film selective to the material of the structure.